

Abstract

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Medication use and access during Medical Emergency Team activations in an Australian tertiary referral hospital

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Objectives:

Medication use and access by Medical Emergency Teams (METs) may contribute to delays, errors and patient harm. There is limited published data available to understand the medications commonly used, the indications, and how these are accessed during MET activations. With the objective of informing improvements in medication management, this study aimed to describe MET medication use and access for the care of deteriorating patients.

Methods:

Data routinely collected by attending clinicians for all adult patient MET calls over a 12 month period in an Australian tertiary referral hospital were retrospectively collated and analysed. This dataset included medications used during the MET activation (excluded fluids and oxygen). Descriptive and inferential statistics, using a generalized estimating equation approach to account for repeat activations and admissions for the same patient, were performed to quantify and analyse medication use and the access sources of medications.

Results:

A median of one medication was used at 34% (n=1920) of the 5727 reviewed MET activations. The most frequently used medications were intravenous electrolytes (n=341, 13% of medications used) and opiate analgesia (n=248, 9%). Medication use was associated with MET activations due to high heart rate (n=585/1920, 30%, p<0.001), high respiratory rate (n=298, 16%, p<0.001), high blood pressure (n=290, 15%, p<0.001), and uncontrolled pain (n=191, 10%, p<0.001). Only 14% (n=368) of medications were accessed from dedicated emergency and MET supplies. Local ward stocks were the most common source of medications used by the MET: at least 47% (reported data) and up to 73% (imputed data).

Conclusions:

Medications are common MET interventions and medication management relies heavily on local medication availability. Medication management systems can be optimised by incorporating medication use patterns and associations with MET activation criteria to improve the care for deteriorating patients.

